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[54] **ULTRAMICRO-QUANTITATIVE DETERMINATION OF ACETONE AND KIT SUITABLE THEREFOR**

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[52] **U.S. Cl.** ..... **424/1;** 206/569; 23/230 B

[58] **Field of Search** ..... 206/569; 424/1, 1.5; 23/230 B

[56] **References Cited**

PUBLICATIONS

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[57] **ABSTRACT**

Process for ultramicro-quantitative determination of acetone comprising (1) reacting radioactive molecular or cationic iodine with the acetone contained in a sample from biological preparations in a strong alkaline solution to produce radioactive iodoform according to a haloform reaction quantitatively, (2) reducing the non-reacted molecular or cationic radioactive iodine to a radioactive iodide, (3) separating the radioactive iodoform from the radioactive iodide, and (4) measuring the radioactivity of the radioactive iodoform by any conventional method. Two types of assay kits suitable for use in this determination of acetone comprise respectively:

(A)

Reagent 1 = a radioactive iodide;
Reagent 2 = an oxidizing agent;
Reagent 3 = an alkali agent;
Reagent 4 = a reducing agent;
Reagent 5 = an acetone standard solution;
Reagent 6 = a surface active agent; and
Reagent 7 = an anion exchanger.

(B)

Reagent 1 = a radioactive iodide;
Reagent 2 = an oxidizing agent;
Reagent 3 = an alkali agent;
Reagent 4 = a reducing agent;
Reagent 5 = an acetone standard solution; and
Reagent 6′ = a non-hydrophilic organic solvent,

each of the reagents in the two kits being in separate containers.

18 Claims, 2 Drawing Figures